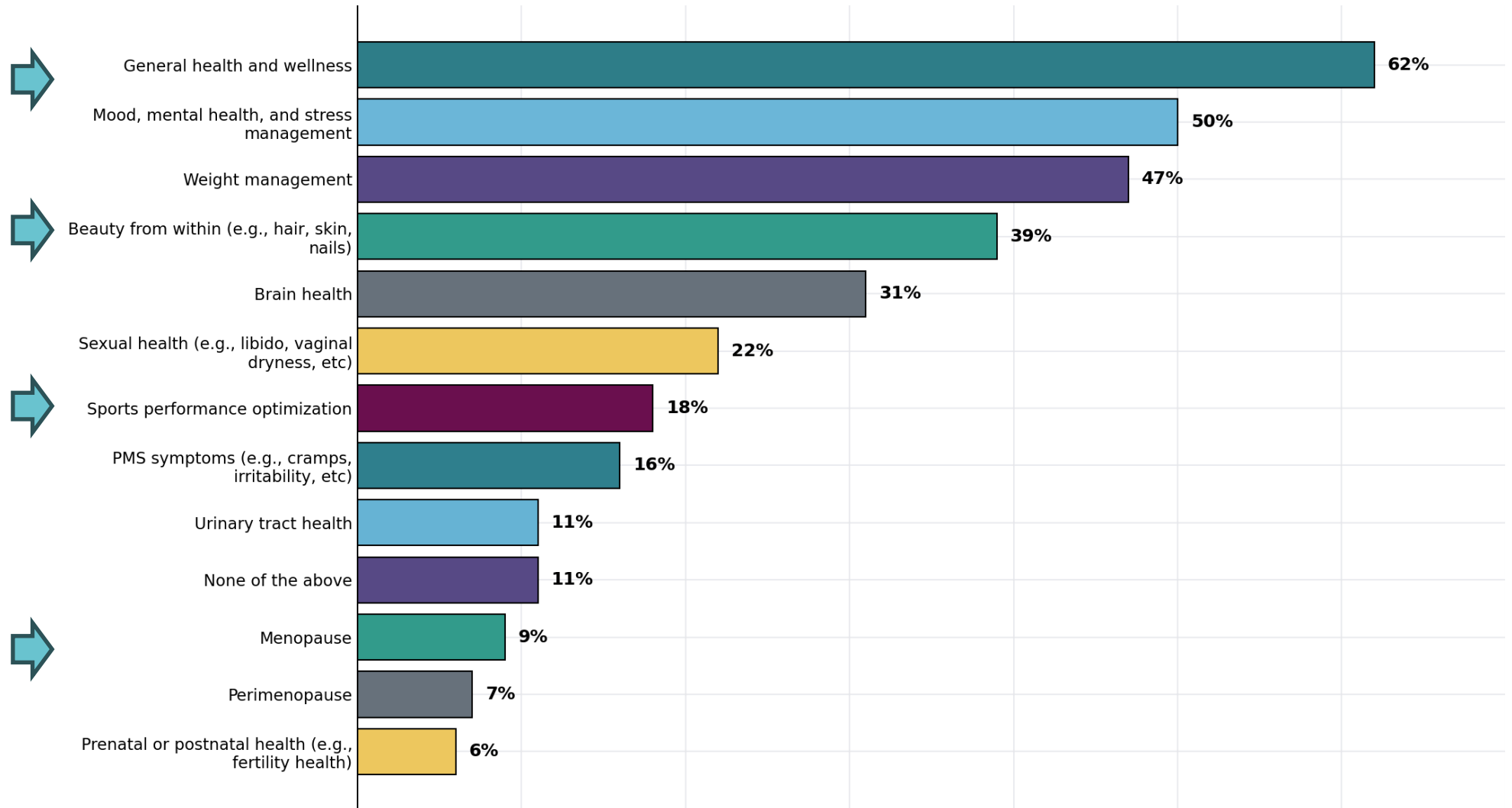




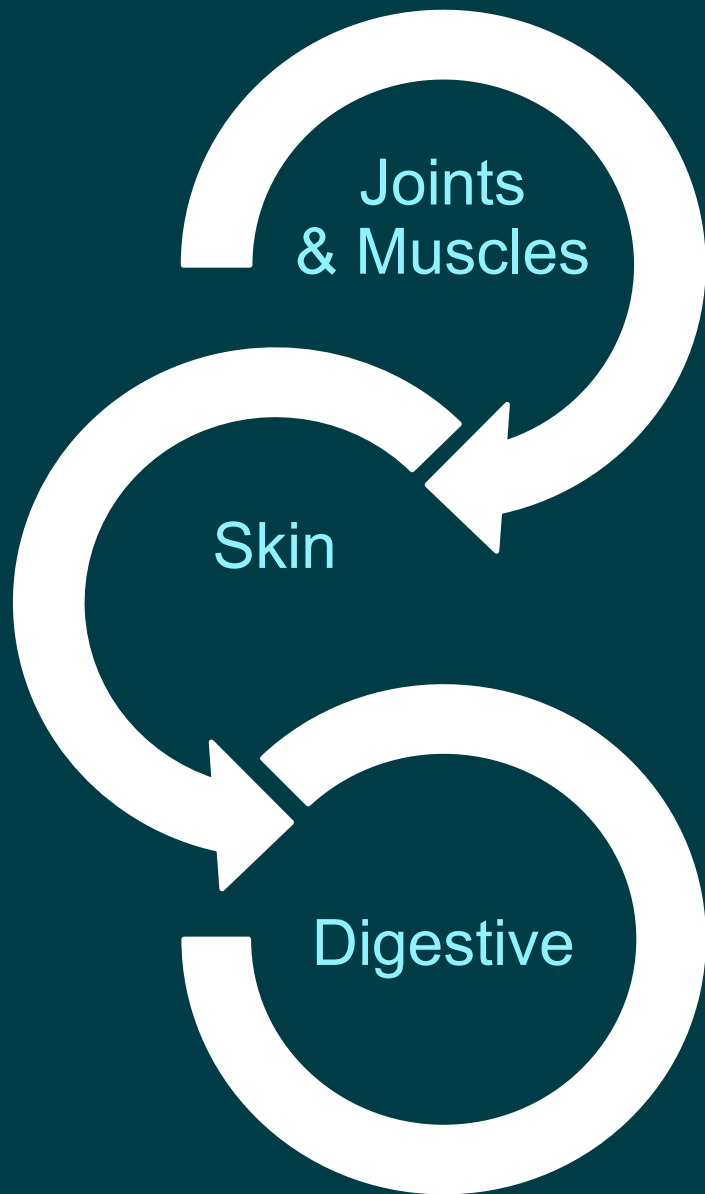
From science to solutions:

The next generation of
ingredients shaking up
women's health

Balancing act: The top health concerns women are actively managing



Source: *Nutrition Business Journal. Women's Health Special Report 2023*



**Three key pillars
for supporting
women's health**

We offer a cutting-edge portfolio of science-backed nutraceutical ingredients for **mobility**, **beauty** and **digestive health** innovation

Discover how our branded ingredients can inspire health solutions that improve quality of life and wellbeing.



Collavant[®]_{n2}
Mobilee[®]



Dermial[®]



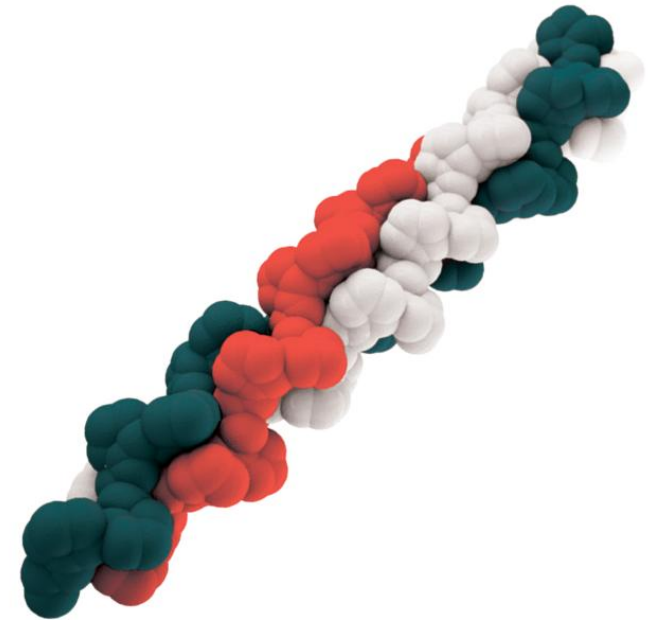
DAOgest



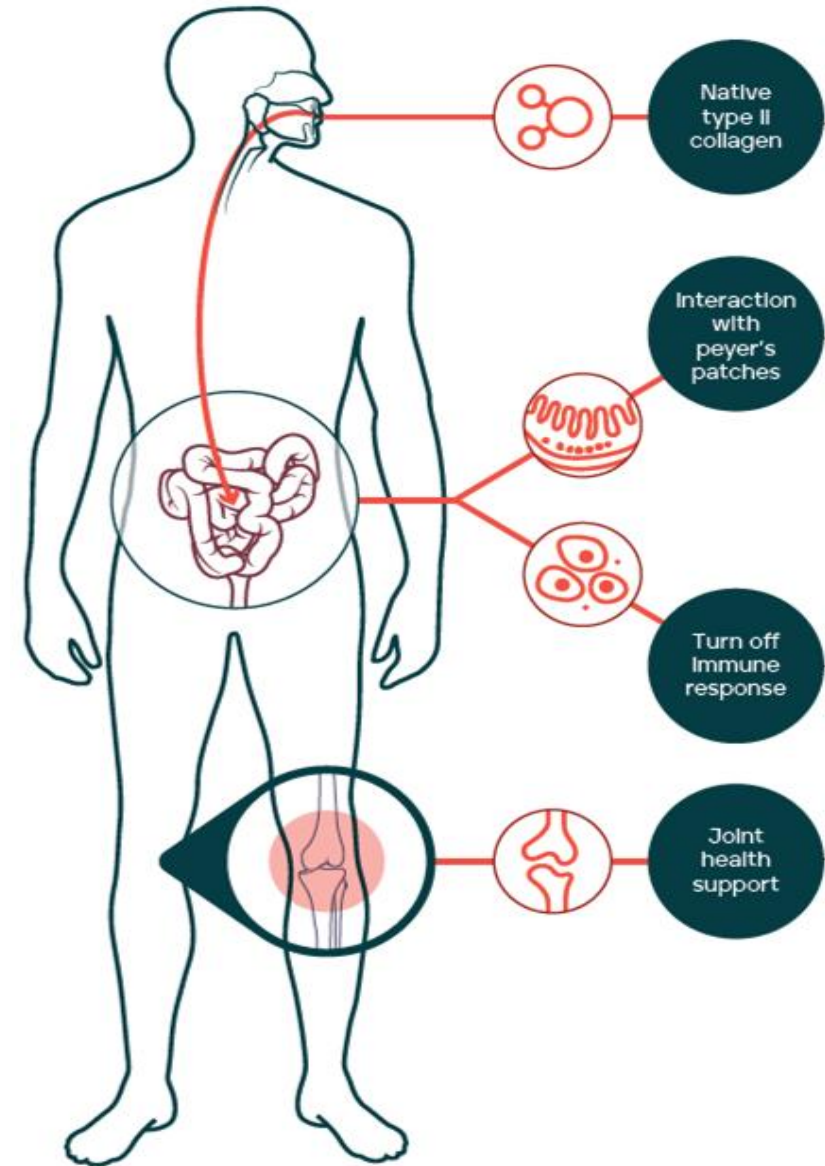
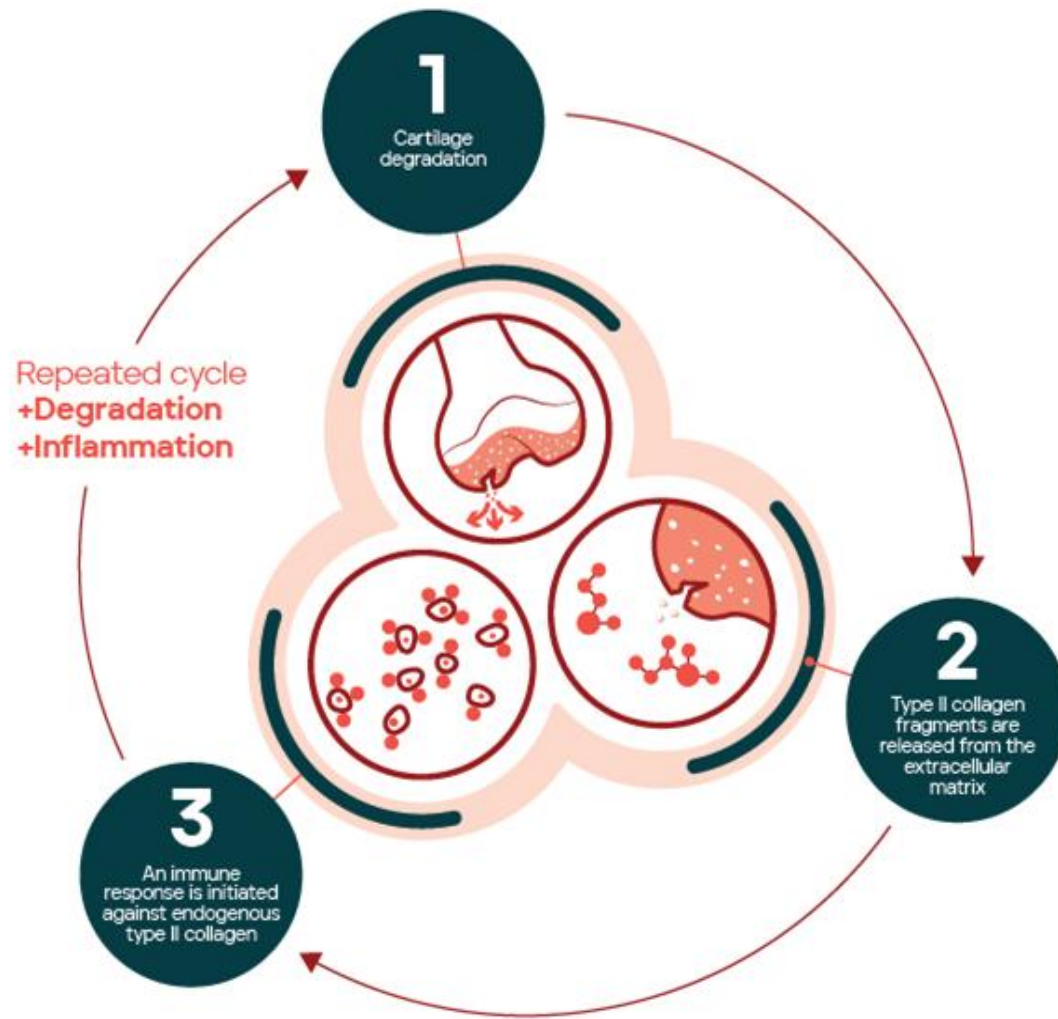
Collavant[®]n2
Native type II collagen

What is Collavant[®] n2?

- A naturally-derived ingredient supplying **native (undenatured) type II collagen**
- Supports **joint health** at a low dose of **40 mg / day**
- Delivers an immune-mediated mechanism of action



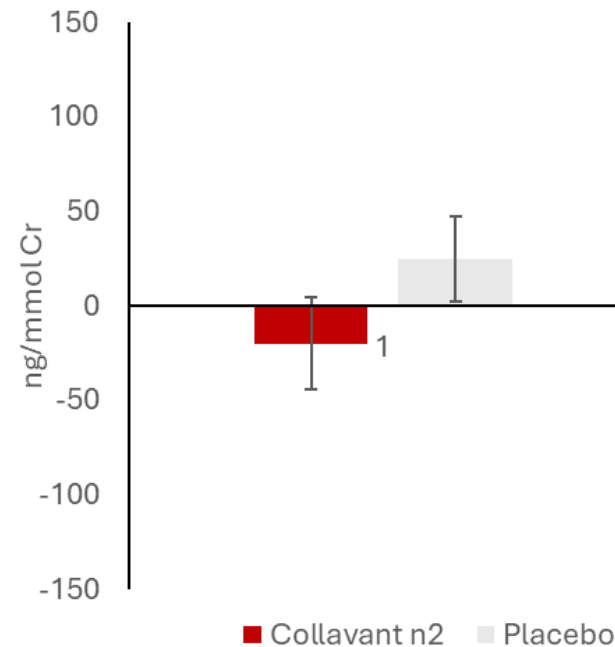
Native type II collagen: Mechanism of action



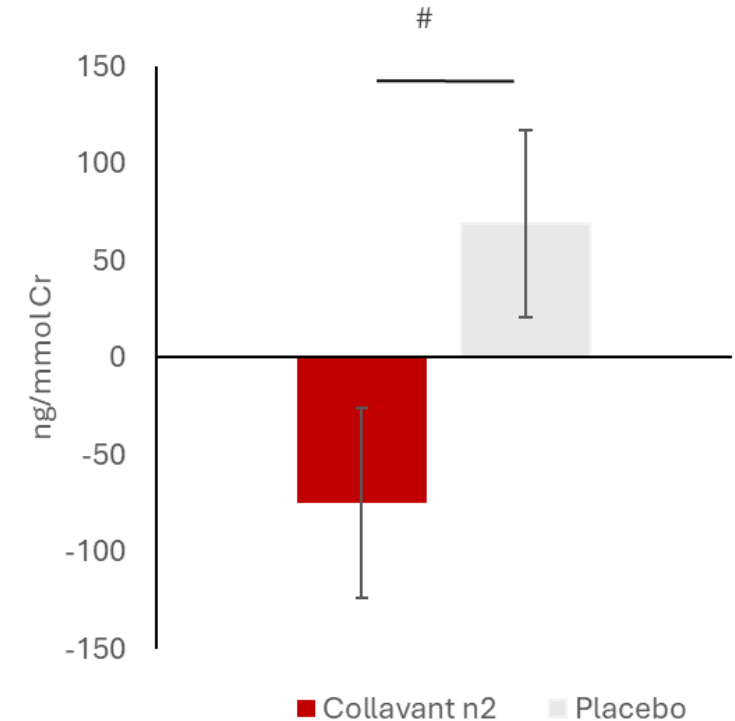
Cartilage biomarker: CTX-II

- **Design:** Randomized double-blind, placebo-controlled study
- **Participants:** Healthy subjects (discomfort after activity)
- **Study arms:**
 - Placebo
 - **Collavant[®] n2** (40mg/day)
- **Sample size:** n= 74
- **Treatment period:** 6 months

GENERAL POPULATION
VAS score 30-50mm during
exercise



SUB-POPULATION
VAS score 40-50mm during
exercise



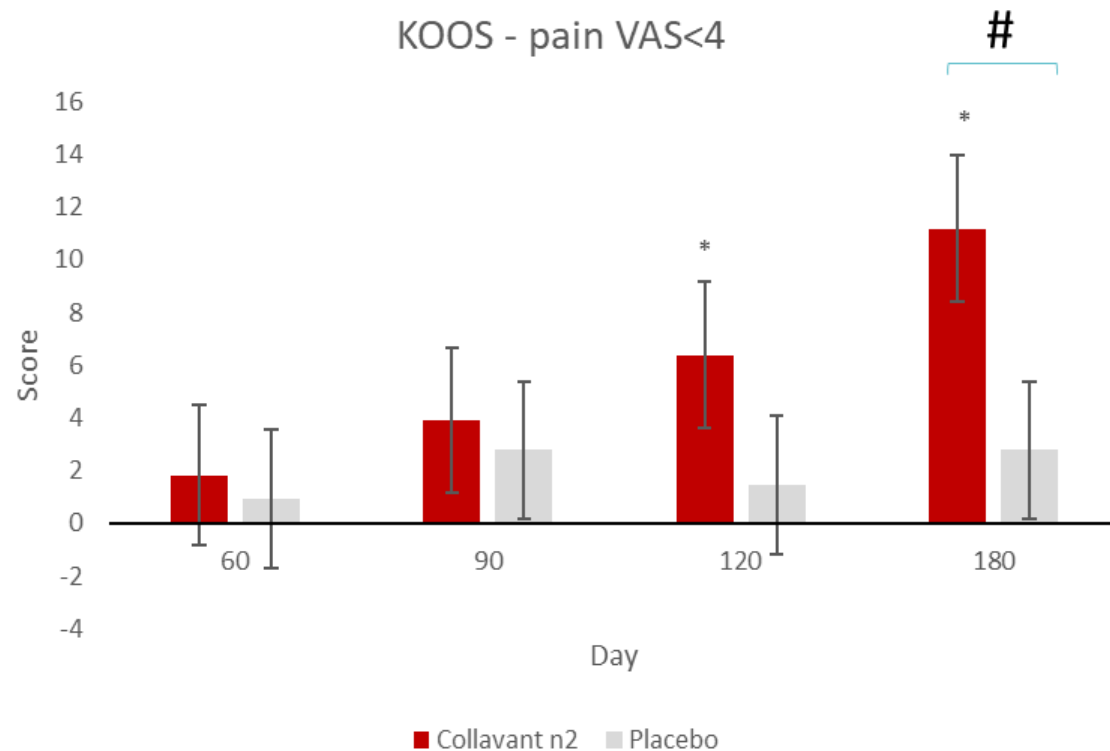
Results are expressed as difference vs baseline

P<0.05 differences in improvement at 180d vs baseline: Collavant/Placebo

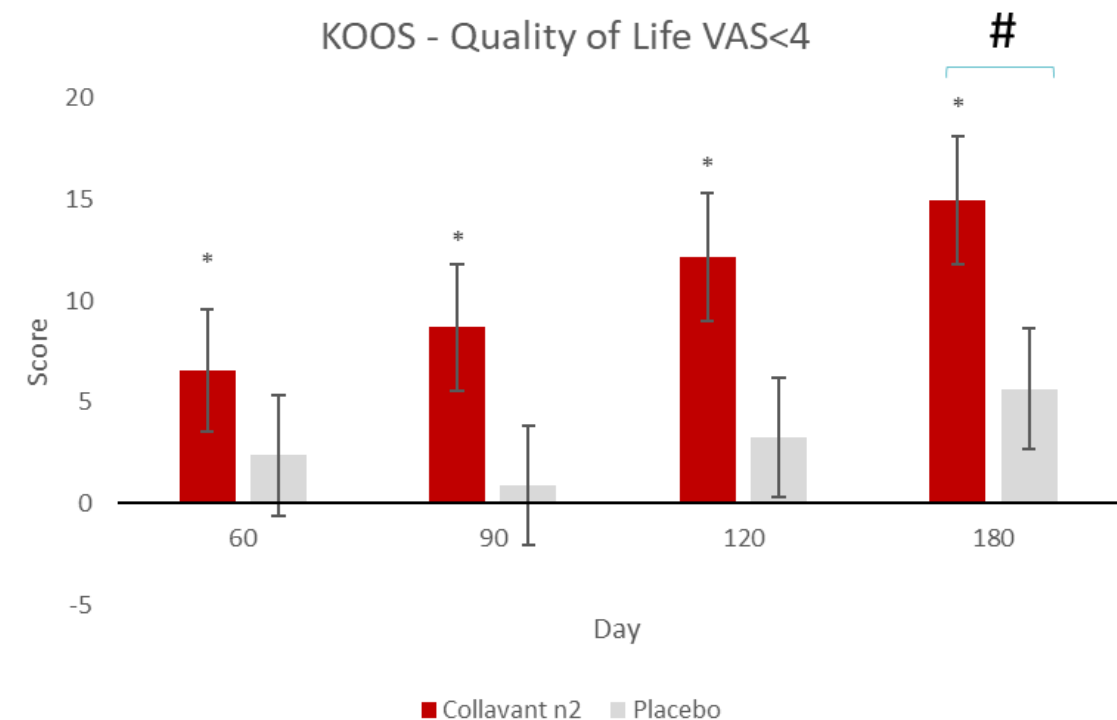
Möller et al. Nutrition Journal 25, 46 (2026)

Knee-related symptoms: KOOS score

Decreases joint discomfort



Improves quality of life



Results are expressed as difference vs baseline

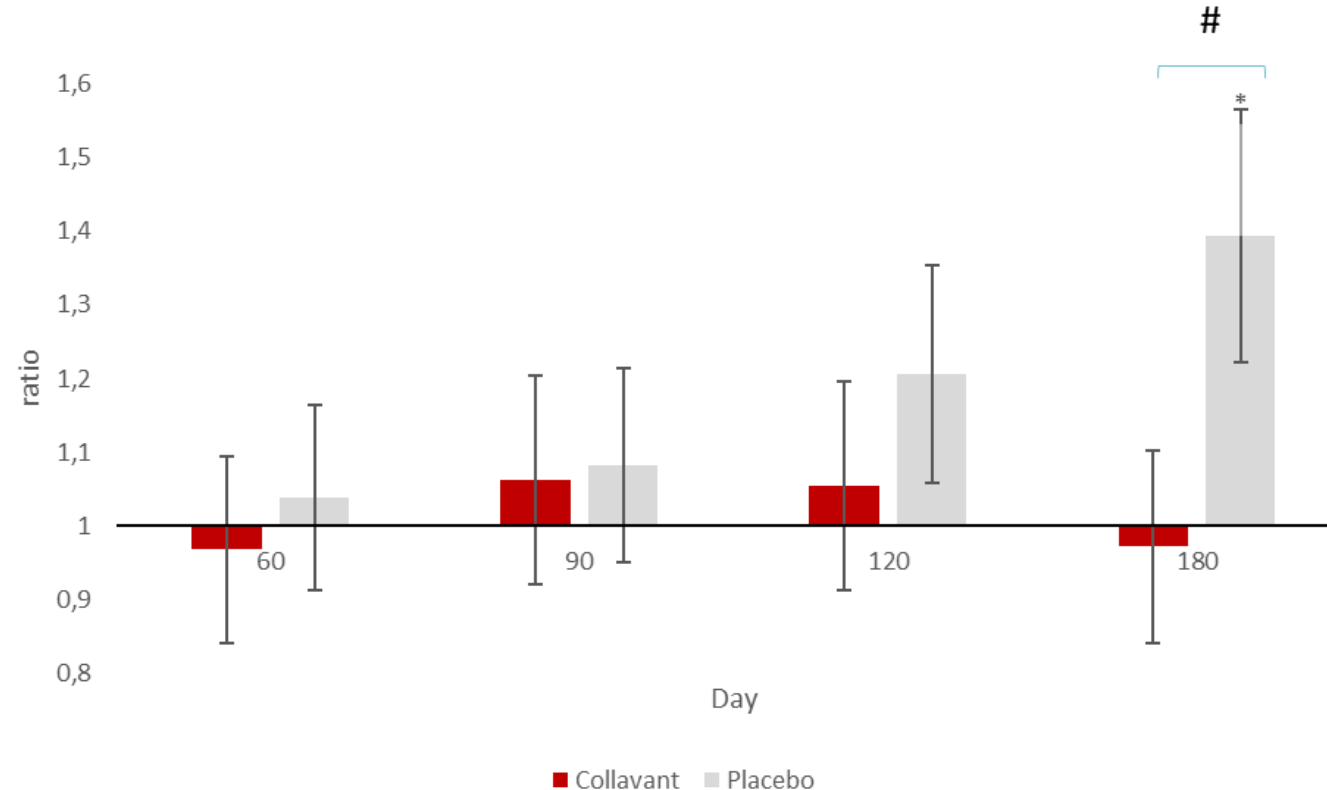
$P < 0.05$ differences in improvement at 180d vs baseline: Collavant/Placebo

* $P < 0.05$ vs baseline

Möller et al. Nutrition Journal 25, 46 (2026)

Knee activity related symptoms: Time to recover from discomfort

Quicker recovery time



Results are expressed as ratio difference versus baseline

P<0.05 differences in improvement at 180d vs baseline: Collavant/Placebo

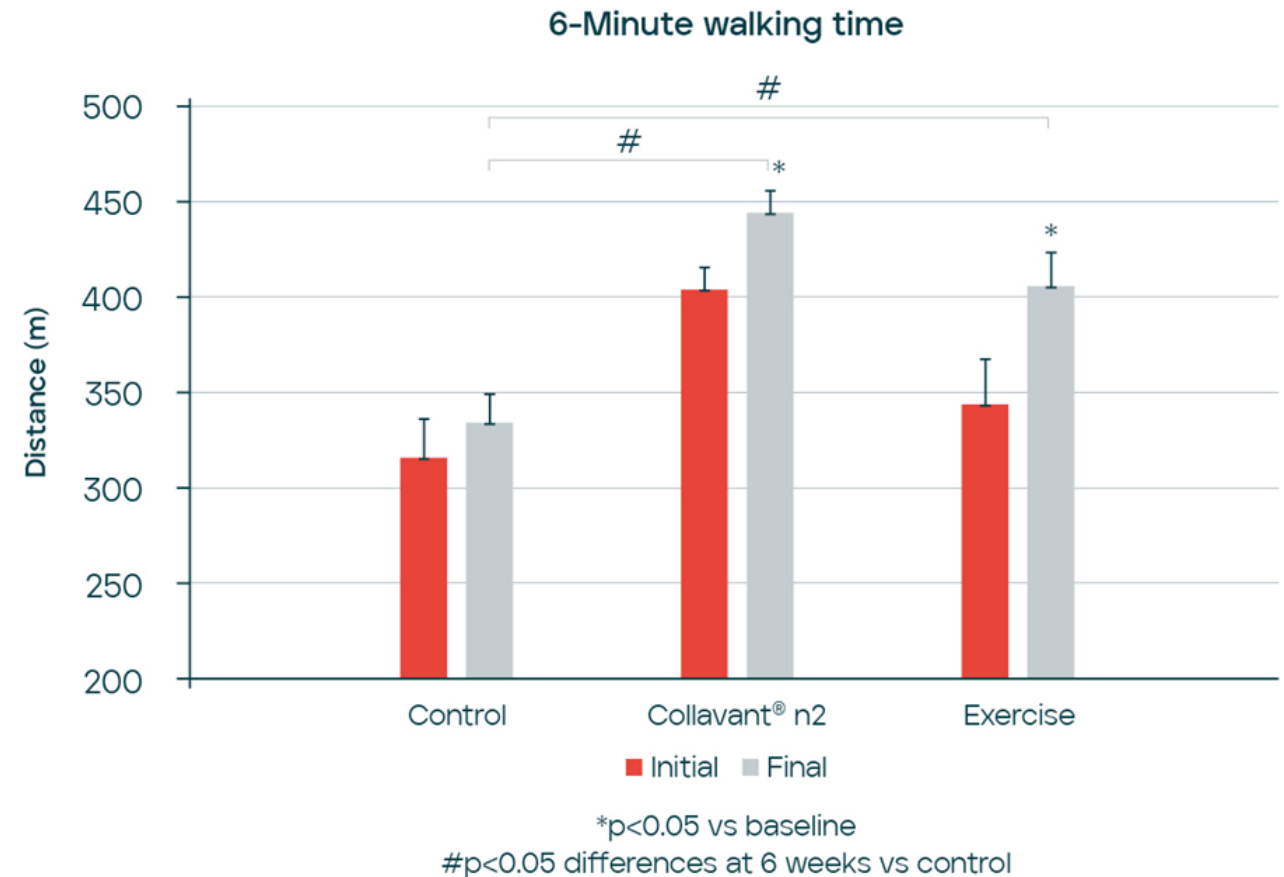
* P<0.05 vs baseline

Möller et al. Nutrition Journal 25, 46 (2026)

Women study

Longer distance walked

- **Study design:** Blinded randomized controlled clinical trial
- **Patients:** 39 women with knee OA patients
- **Duration:** 6 weeks follow up
- **Study interventions:**
 - **Control group:** no intervention
 - **Medication group:** Collavant[®] n2 (40 mg/d)
 - **Exercise group:** rehabilitation protocol

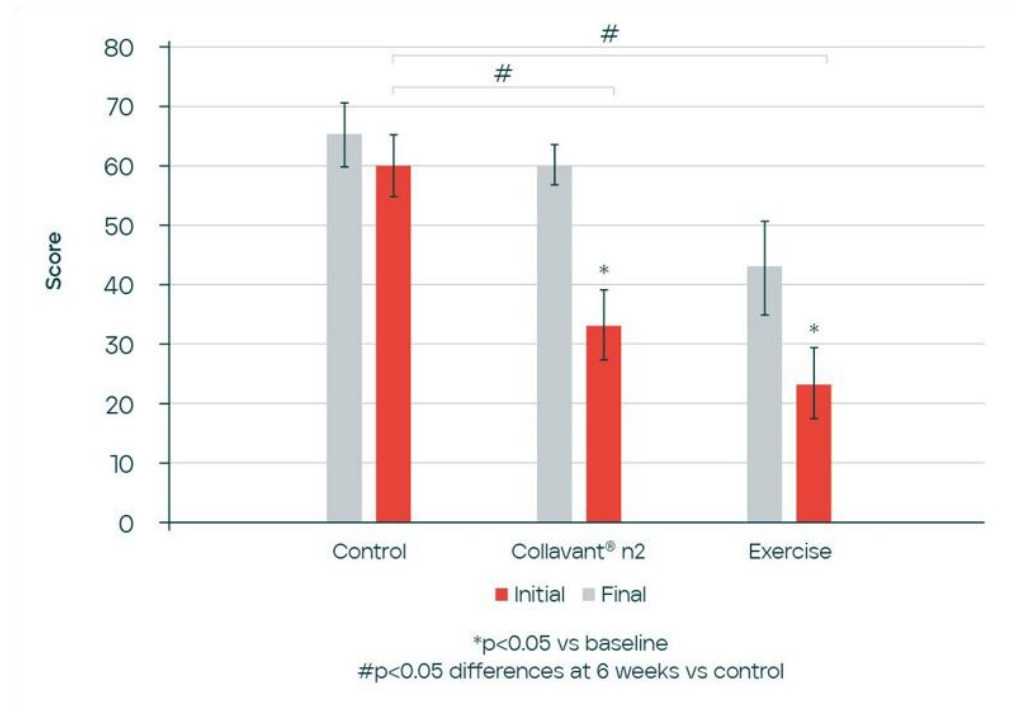


Santana et al. Wien Klin Wochenschr. 2023 135(11-12):291-300

Women study

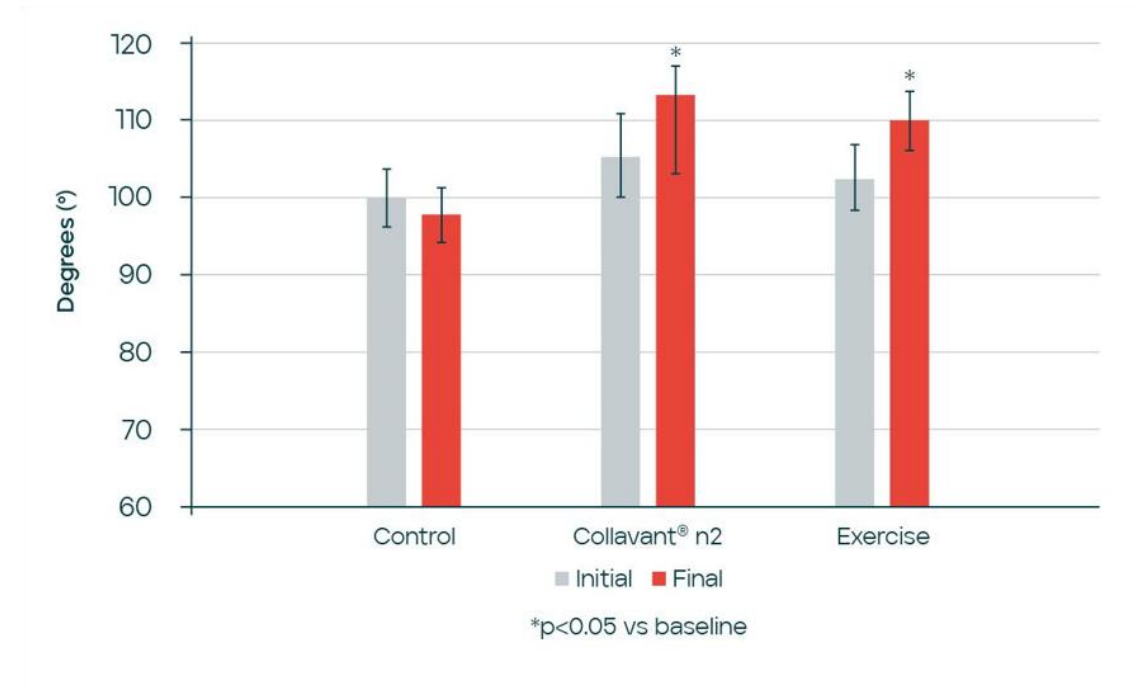
Decreased joint discomfort

WOMAC pain



Increased mobility

Range of Motion



*P<0.05

P<0.05 differences at 6 weeks vs placebo

Santana et al. Wien Klin Wochenschr. 2023 135(11-12):291-300

Collavant[®] n2 – Full list of scientific publications

Preclinical studies

Main finding	Study type	Model	Reference
Cartilage protection	Animal model	Rat with MIA induced OA	Sifre et al 2020
Anti-inflammatory effect	Animal model	Rabbit with OA	Mannelli et al 2015

Clinical studies

Main finding	Design	Participants	Reference
Mobility improvement and cartilage protection	Randomized double-blind placebo-controlled study	74 healthy subjects	Möller et al 2026
Mobility improvement	Randomized controlled study	39 women with OA	Santana et al 2023
Improve mobility and reduce pain in combination with Mobilee[®] and Boswellia serrata and curcumin extracts	Retrospective observational study	100 patients with knee OA	Kamat et al 2023
Improve mobility and reduce pain in combination with Boswellia serrata extract	Observational study	40 patients with knee OA	Jain et al 2020
Mobility improvement and cartilage degradation	Randomized controlled study	39 subjects with knee OA	Bakilan et al 2016
Cartilage protection	Observational retrospective study	104 subjects with hand, hip or knee OA	Scarpellini et al 2008

Key takeaways:

- Oral supplementation with **Collavant[®] n2** at a dose of **40mg/day**, helps to **support joint function**
- The specific mechanism of action (immune-mediated) and the low dose, make **Collavant[®] n2** an **ideal combination for other ingredients**.



Mobilee[®]

Hyaluronic acid matrix ingredient

Addressing women's joint and muscle health needs

What is Mobilee®?

A **unique** and **patented composition** containing three key, naturally-occurring components:

Hyaluronic acid (HA) (>60%)

Collagen

Polysaccharides



Mobilee®



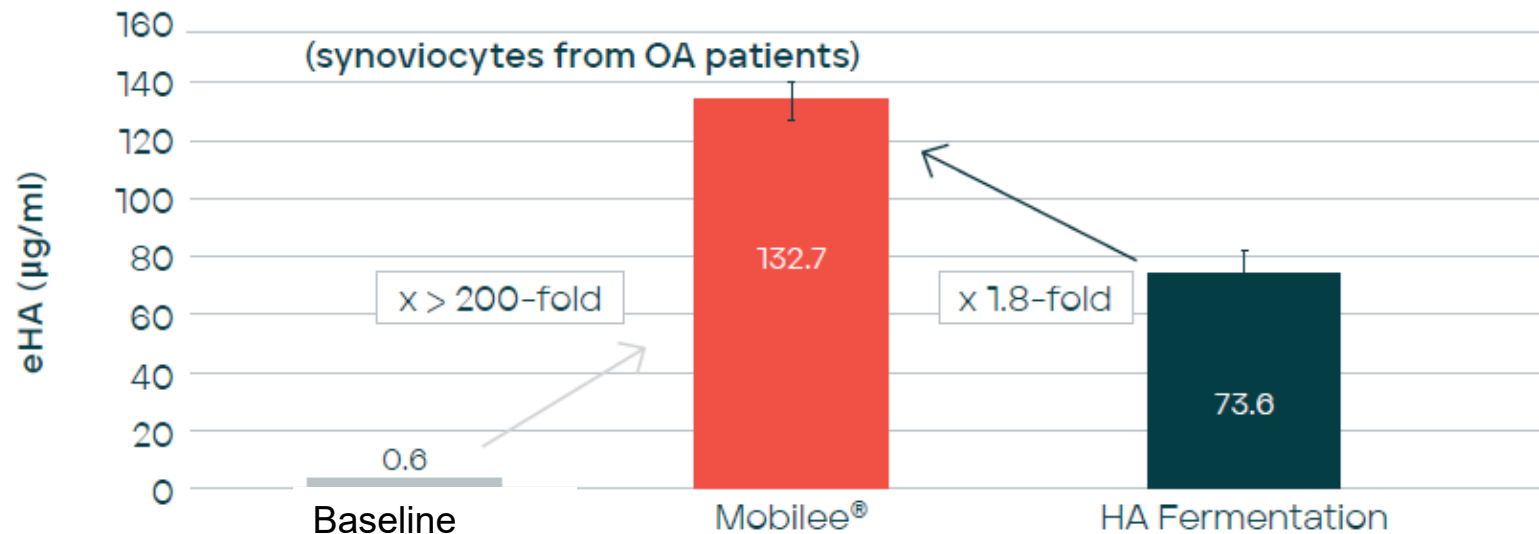
Mobilee®

- **Backed by science**
 - **13 Scientific studies (7 pre-clinical, 6 clinical)**
 - **Joint Health**
 - Positive impact on synovial fluid
 - Supports mobility
 - Decreases joint discomfort
 - Decreases prostaglandin E2 production
 - **Muscle Health**
 - Supports muscle strength



Mobilee®: Uncovering the mechanisms of action

Increases the endogenous synthesis of **hyaluronic acid**.



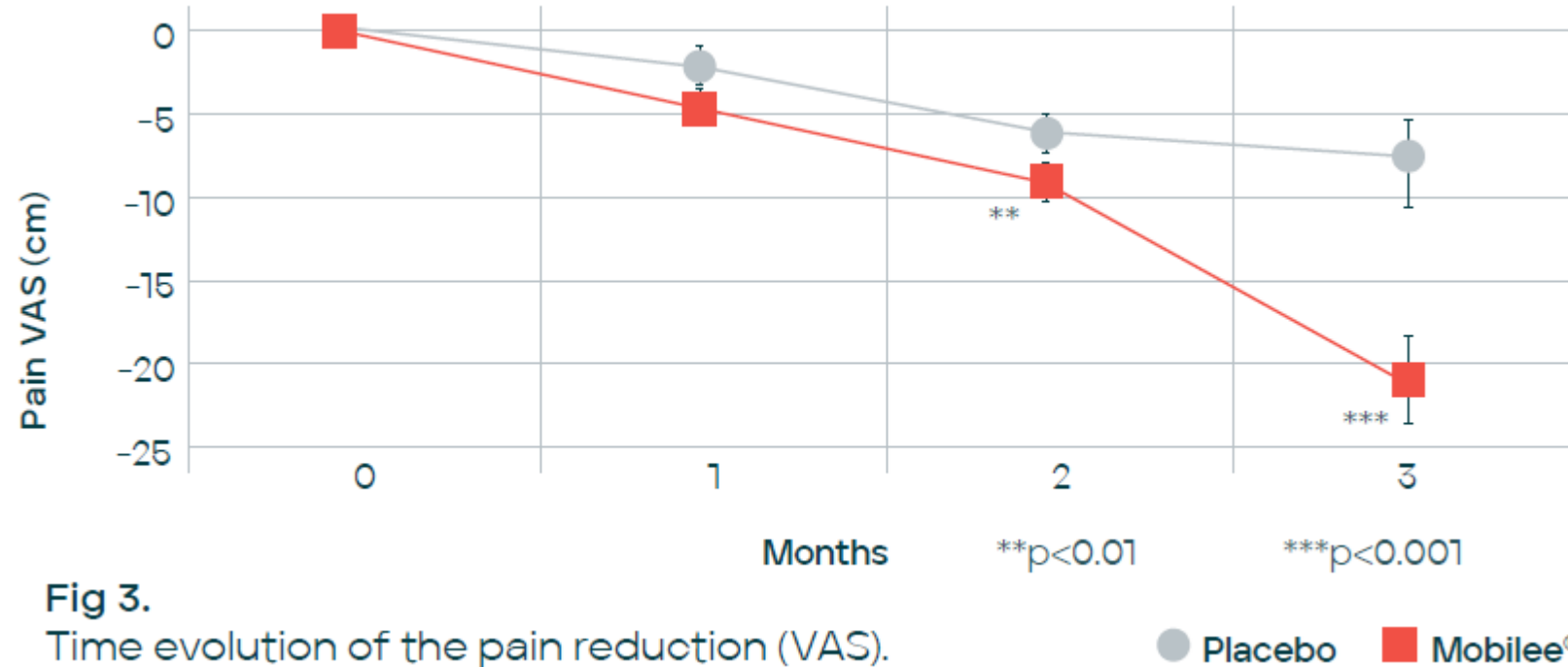
Mobilee® also increases endogenous **HA** secretion by **more than 200-fold** vs baseline and **1.8-fold vs fermentation HA**.

Fig 1.
Effect of Mobilee® on endogenous synthesis of HA in human osteoarthritic synoviocytes after 24h.

Torrent, A. et al. Osteoarthritis and Cartilage, 2009;17:S278-279.

Mobilee®: Uncovering the mechanisms of action

Reduces synovial effusion and joint **discomfort**.



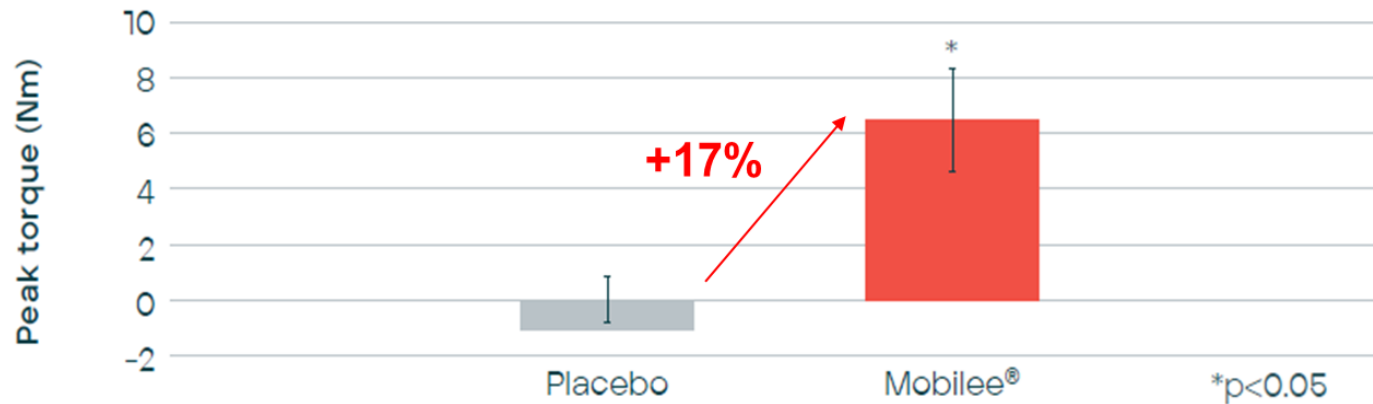
Daily consumption of a yoghurt containing 80mg of **Mobilee®** significantly **reduced joint discomfort** from the **second month** of treatment, compared to the placebo group.

n = 77

Sánchez, J. et al. Genes Nutr, 2014;9:417.

Mobilee®: Muscle health support

Supports **muscle strength**



Increase in maximum peak torque compared to baseline values (Nm) for knee extension at 240°/s.

Three months of oral administration with a yoghurt product containing **Mobilee®** in healthy individuals who previously reported knee discomfort provided improvements in **muscle strength**.

Pilot study. n=40 (20 individuals per group)

Martínez-Puig et al. Mediterr J Nutr Metab, 2013; 6:63-68

Mobilee®: Muscle health

Supports **muscle function**



Mobilee® supports **muscle strength, work and power** in healthy **individuals** with knee joint discomfort.

Increase in isokinetic parameters at 180°/s compared to baseline values.

* $P < 0,05$

Meta-analysis. $n=148$ (74 individuals per group)

Moriña et al. Food & Function, 2018;9:3224-3253

The effects of Mobilee®



Increases the endogenous synthesis of hyaluronic acid by synovial cells more than 200-fold



Lowers Prostaglandin E2, which is linked to inflammation



Reduces synovial effusion and joint discomfort after three months



Increases muscle cells proliferation



Supports muscle strength

x1.8 MORE POTENT COMPARED WITH HA FROM FERMENTATION

ANTI-INFLAMMATION

REDUCES SYNOVIAL EFFUSION & JOINT DISCOMFORT

SUPPORTS MUSCLES

Key takeaways:

- Oral supplementation with **Mobilee®** at a dose of 80 mg/day, helps to **improve mobility joint and muscle function.**
- In vitro studies have demonstrated that **Mobilee®** has a direct effect in muscle cells and shows synergistic effects with whey protein on muscle regeneration.





Dermial[®]

Hyaluronic acid matrix ingredient

Women's skin health support

What is Dermial®?

Unique **hyaluronic acid matrix ingredient** for **skin and beauty**

Naturally occurring components:

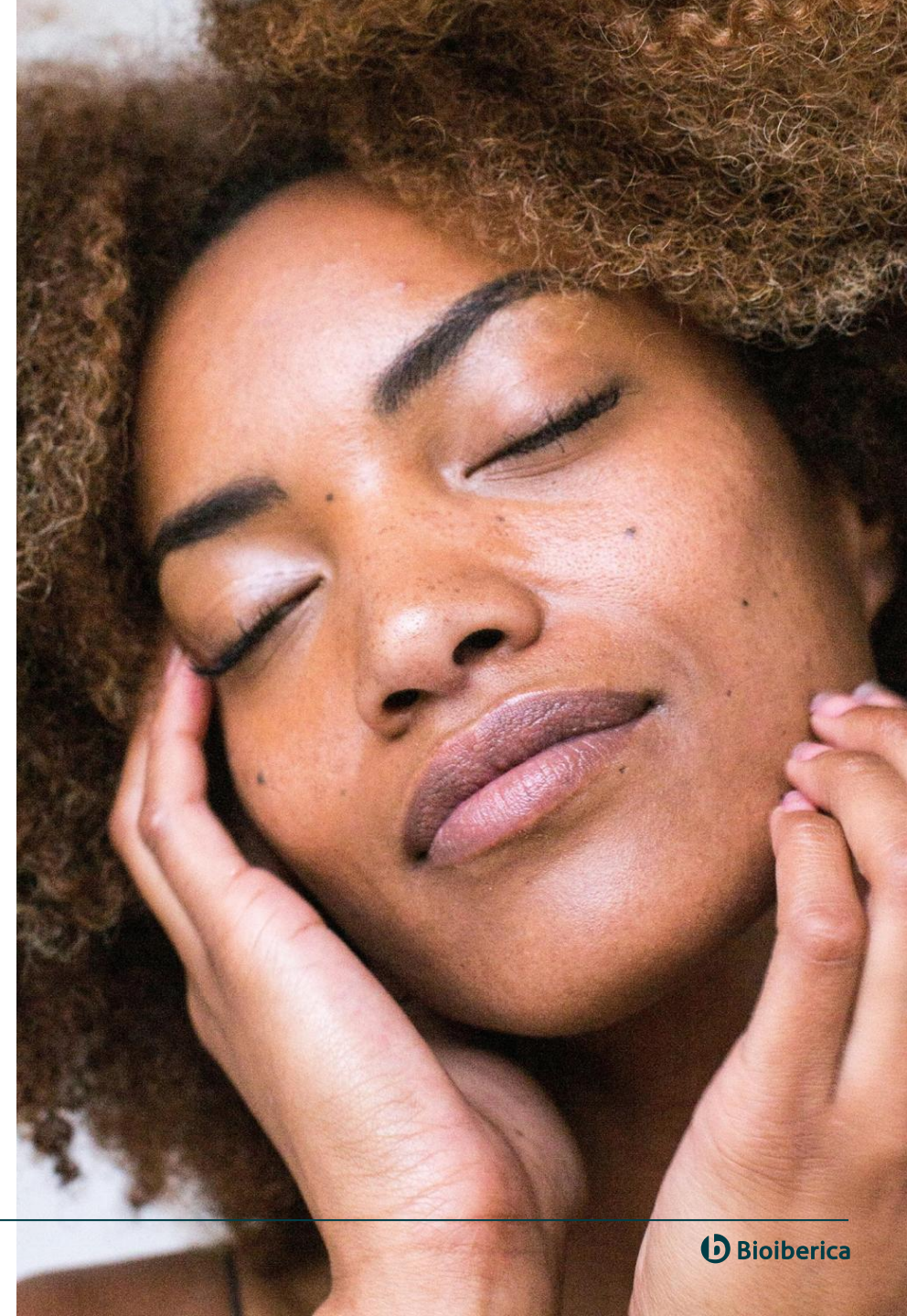
- **Hyaluronic Acid (>60%)**
- **Other Glycosaminoglycans**
including **Dermatan Sulfate and Chondroitin Sulfate**
- **Collagen**

The effects of Dermial®

Scientific data supports that intake of **Dermial®**:

- Increases **hydration**, activates **facial glow** and reduces **wrinkles** and **dryness**.
- Promotes **HA, collagen type I & III** and **elastin** production and cell proliferation and migration.
- Has a **superior effect compared to Fermentation origin HA**

Galvez-Martin et al. Int J Mol Sci. 2023 Mar 1;24(5):4774



The Science behind Dermial®: Women-only study

Hydrates the skin

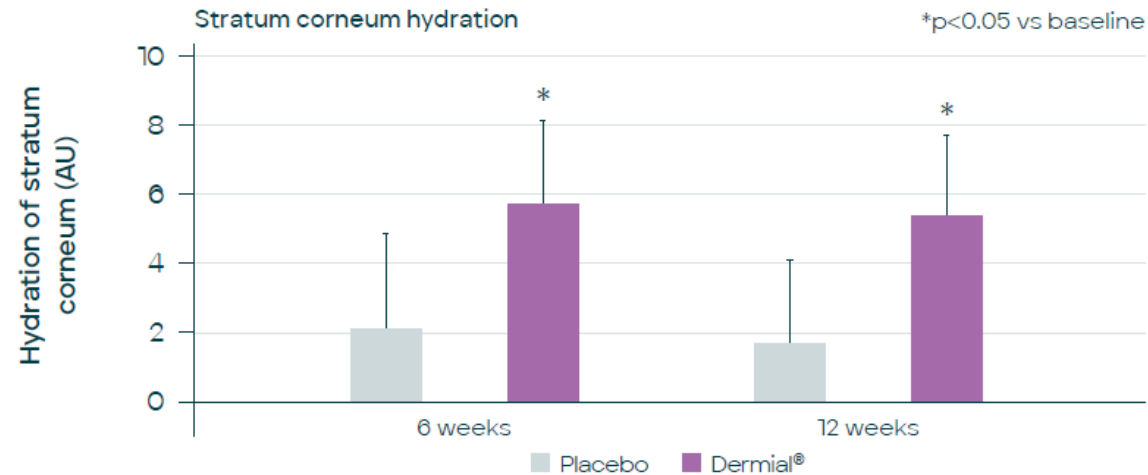


Figure 2. Change in hydration of the stratum corneum (right periocular area) following Dermial® supplementation.

A randomized, double-blind placebo-controlled clinical study.

The Results: Dermial® significantly increased hydration at six (13.1%) and twelve (12.1%) weeks versus baseline.

Montero-Vilchez et al. Dermatol Ther (Heidelb). 2025 Aug;15(8):2099-2116

The Science behind Dermial®: Women-only study

Reduces wrinkles

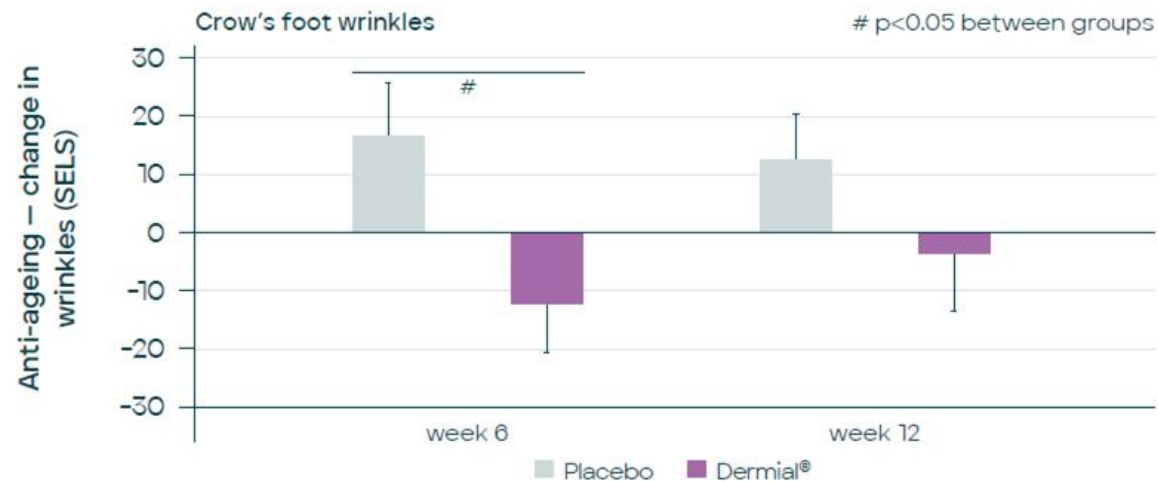


Figure 3. Assessment of crow's foot wrinkle (on right side) periorcular area.

The Results: Statistically significant differences in wrinkle evolution between the Dermial® group and the placebo group were observed at 6 weeks.

The Science behind Dermial®: Women-only study

Activates facial glow

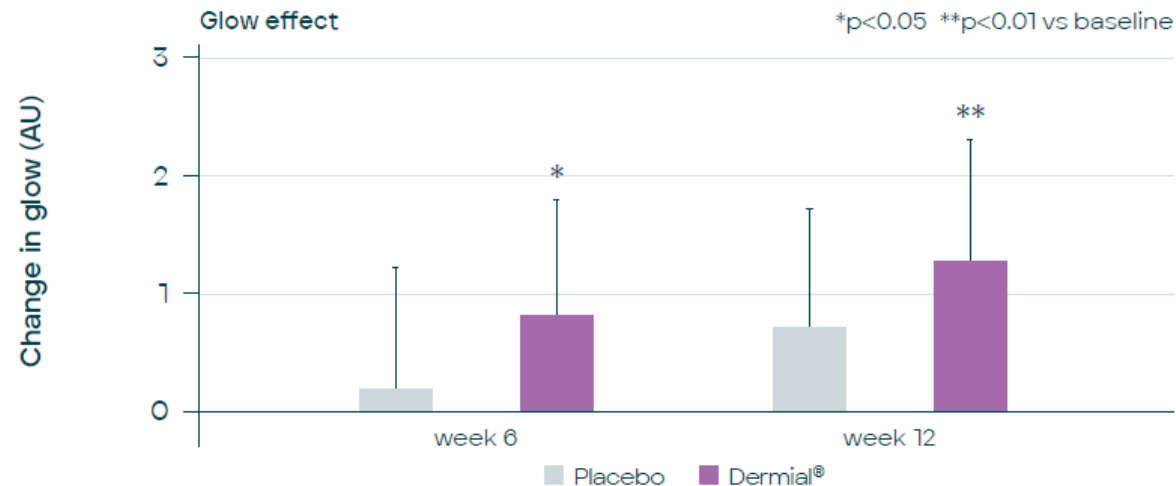


Figure 4. Increase in skin 'glow' following Dermial® supplementation.

The Results: Dermial® significantly increased the 'glow' – or brightness – of skin by 20% at 6 weeks and 33.4% at 12 weeks compared to baseline.

The Science behind Dermial®: Women-only study

Higher consumer satisfaction

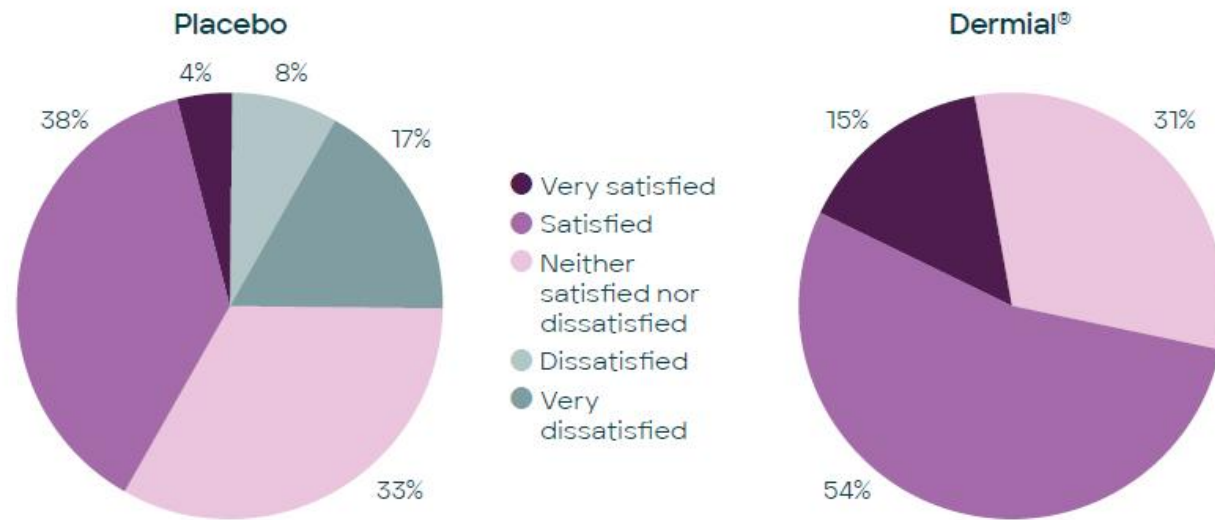


Figure 5. Global satisfaction evaluation following Dermial® or placebo intervention.

Dermial® group reported significantly higher satisfaction vs placebo (PBO)

69% of Dermial® consumers were satisfied or very satisfied

Only 42% of PBO consumers were satisfied or very satisfied

25% of PBO consumers were dissatisfied or very dissatisfied

None of the Dermial® consumers were dissatisfied or very dissatisfied

Montero-Vilchez et al. Dermatol Ther (Heidelb). 2025 Aug;15(8):2099-2116



Key takeaways:

- Oral supplementation with **Dermial®** at a dose of 60mg/day, helps to increase skin **hydration** and **glow**, and reduce **wrinkles** and **dryness**.
- In vitro studies have demonstrated that **Dermial®** has a direct effect in skin cells promoting the synthesis of **collagen type I & III elastin**.



DAOgest[®]

Your next
innovation in
digestive health

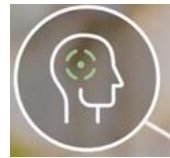
Histamine intolerance: ↓DAO

Prevalence: 1-3% global population (1)

- **Cause:** low DAO enzyme activity

Who: women (80% cases) (2)

- **Activated by:** histamine-rich foods
- **Symptoms** are very non-specific



- Headache
- Dizziness
- Runny nose
- Nose Congestion
- Sneezing



- Pruritus

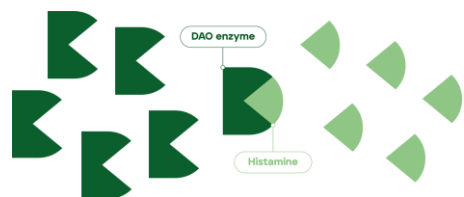
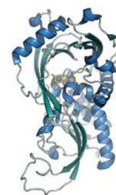


- Abdominal pain
- Constipation
- Diarrhea
- Bloating
- Colic
- Belching
- Nausea
- Postprandial fullness



What is DAOgest®?

- **DAOgest®** is an effective digestive health supplement providing high-quality **diamine oxidase (DAO) enzyme** to support with the **management of histamine intolerance**.



- Extracted from porcine kidney, **DAOgest®** is a 100% biologically-derived ingredient **for use in food supplements**.
- Supports digestive health at a **low dose of 4.2 mg / serving**.



Efficacy

Provides immediate effect



Low dosage

Only 4.2 mg/serving
before meals



Natural origin
molecule

Derived from natural sources



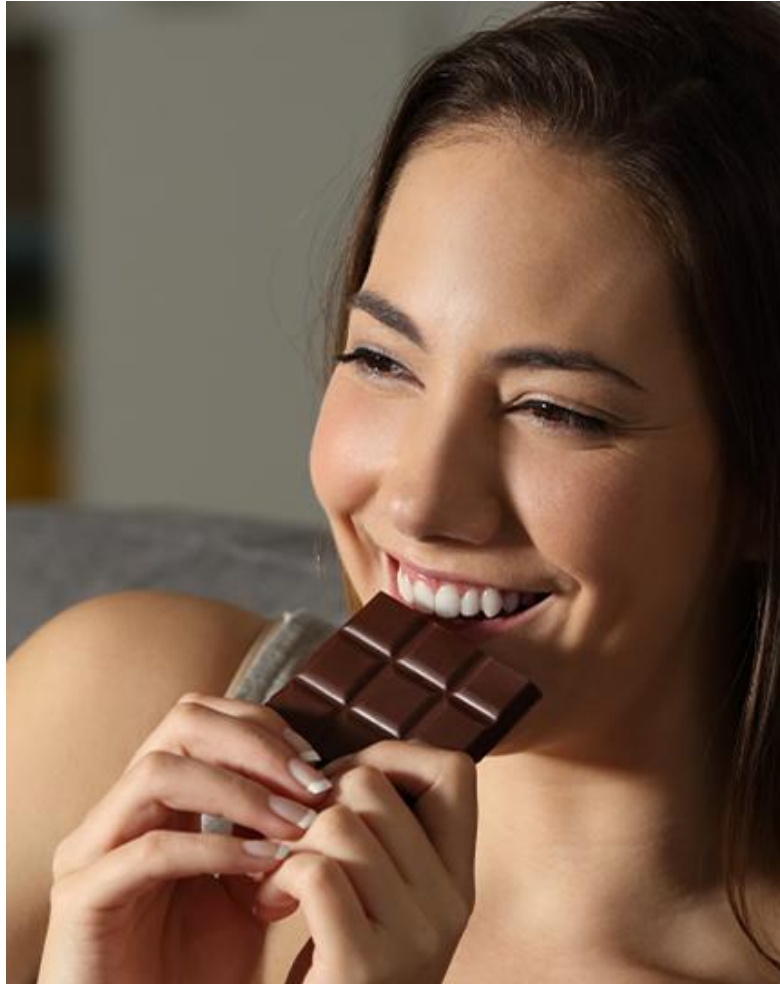
Full traceability

Sourced, developed and
manufactured by Bioiberica



The effect of DAO

A low histamine diet, plus DAO enzyme supplementation 15 minutes before meals help to manage the condition.



Breaking down histamine from foods and beverages

- Ref: Comas-Basté 2019; Comas-Basté 2020; Hrubisko et al. 2021; Gálvez-Martín, P. et al. 2022 (in vitro Bioiberica).



Decreasing histamine levels

- Ref: Comas-Basté 2019; Comas-Basté 2020; Hrubisko et al. 2021; Gálvez-Martín, P. et al. 2022 (in vitro Bioiberica).



Reducing the symptoms of histamine intolerance

- Ref: Manzotti, G., et al. 2016; Schnedl, W. J. et al. 2019, Komericki, P., et al. 2011.

Currently 1 x in vitro study from Bioiberica

DAOgest® Observational Study: Safety and efficacy of DAOgest

- Study treatments: DAO capsules before meals (4 weeks)
- Sample size: **n=82**

Objective

To assess the potential effect of oral DAO supplementation in improving allergy-like effects in individuals with histamine intolerance.

Methods

The observational study in 82 individuals with histamine intolerance investigated the effect of four weeks' DAO supplementation (Histamine Digest® containing 4.2 mg DAOgest) plus vitamin C and catalase on allergy-like effects. The supplement was taken daily before the main meal of the day and the effects of histamine intolerance were evaluated using a standardised questionnaire at baseline

Reduces Histamine Intolerance effects from the first week of intake

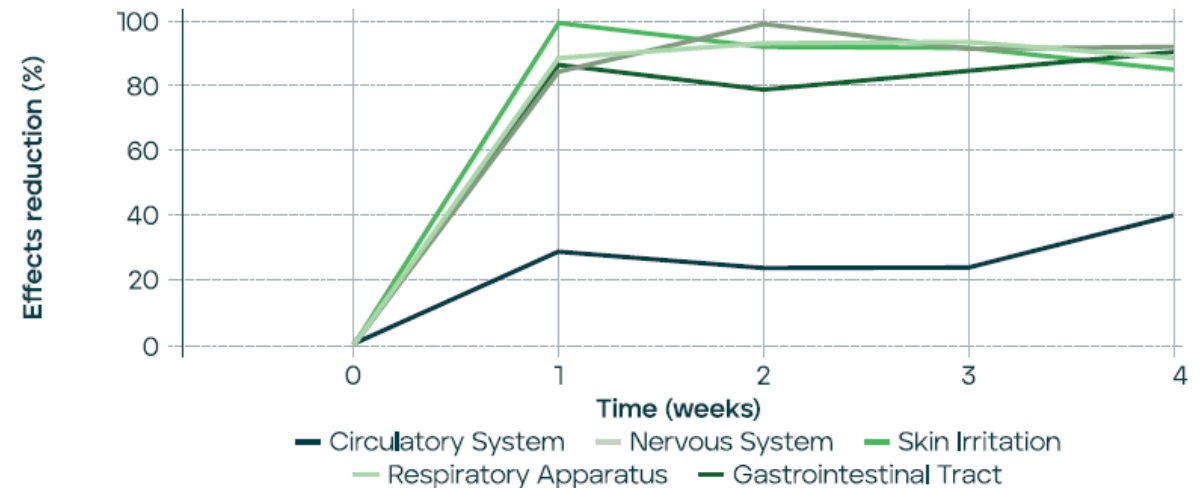


Fig 4. Percentage of reduction of allergy-like effects during the four-week period.

DAOgest Observational Study: Safety and efficacy of DAOgest

Parameters	Symptoms	Percentage reduction in symptoms
Nervous system (NS)	Headache, dizziness	85%
Gastrointestinal tract (GI)	Bloating, flatulence, posprandial fullness, diarrhoea, abdominal pain, constipation, nausea and emesis	94%
Respiratory apparatus (RA)	Rhinorrhea, rhinitis, nasal congestion, sneezing and dyspnea	89%
Skin	Pruritus, flusk, urticaria, eczema and swelling	98%
Circular system (CS)	Tachycardia, hypotonia, collapse	36%

Supplementation with DAOgest® at a dose of 4.2 mg/serving/day in individuals with histamine intolerance is effective and safe at reducing the effects of histamine intolerance from the first week of intake.

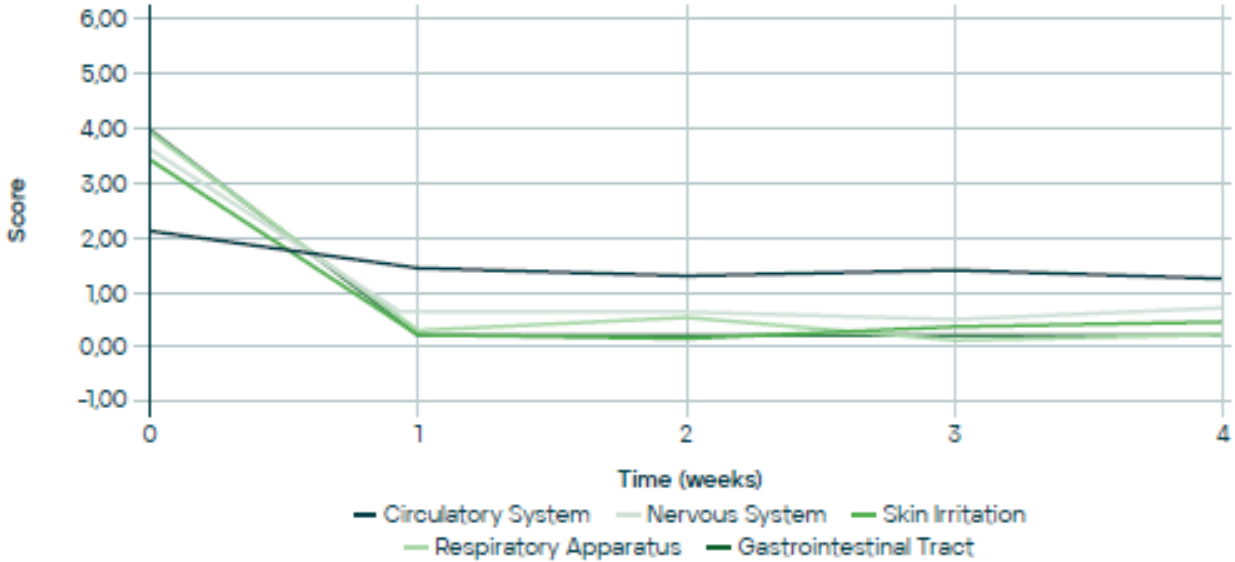


Figure 4: Histamine intolerance severity scores across the four-week study.

O'Connor et al. Clinical Nutrition ESPEN. 2023;58:741

DAOgest® In vitro: Evaluation of DAOgest® absorption and enzymatic activity

Objective

To assess the capability of DAOgest® (4.2 mg) to degrade histamine and determine its absorption potential.

Methods

The enzymatic activity of DAOgest® was evaluated using histamine as a substrate (15 and 30 mg/L) in an in vitro system in which DAOgest® (4.2 mg) was incubated at 37°C for 5 h. Histamine reduction was determined by HPLC-PDA.

The intestinal absorption of DAOgest® was determined using the everted gut sac model.

This In Vitro Study confirmed that DAOgest® is not absorbed in the intestine, this verify Histamine degrading activity is only at the intestinal level

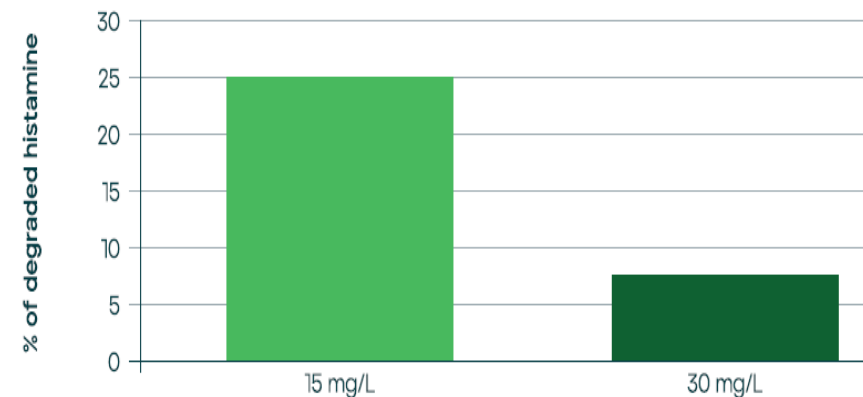


Fig 1. Percentage of histamine degraded by DAOgest (at histamine substrate concentrations of 15 and 30 mg/L).

DAOgest®

In vitro: Histamine-degrading capacity of DAO plus vitamin C

Objective

The activity of DAO enzyme is slowed down due to the hydrogen peroxide generated during histamine degradation. Vitamin C is a powerful antioxidant that is thought to remove the hydrogen peroxide. Therefore, the aim of the study was to evaluate the histamine degrading capacity of 4.2 mg DAO extract from pig kidney (DAOgest®) when combined with 10 mg vitamin C.

Methods

Kinetic characterization of DAO extract (DAOgest®) was determined using histamine as a substrate. Histamine concentrations ranging from 1.1 to 555 mg/L were incubated with DAO extract. Histamine reduction was determined by HPLC-PDA using an in vitro system (sodium phosphate buffer, 20 mM; pH 8.0) in which DAO extract was incubated at 37°C for 5 hours with histamine at a concentration ranging from 10 to 150 mg/L. In a subsequent experiment, vitamin C was added to the medium using 10 and 20 mg/L histamine.

Vitamin C boosts DAO enzymatic activity and consequent histamine breakdown

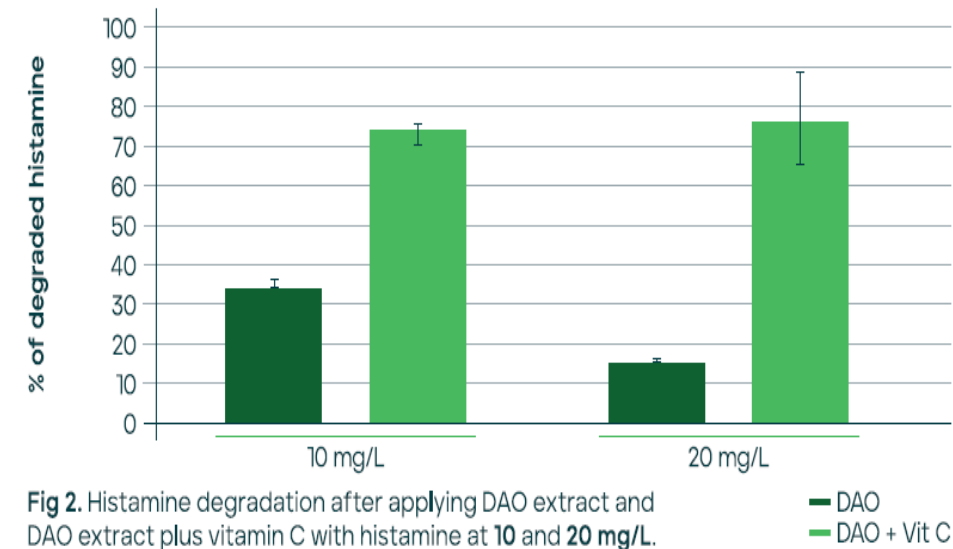


Fig 2. Histamine degradation after applying DAO extract and DAO extract plus vitamin C with histamine at 10 and 20 mg/L.

Gálvez-Martín et al. Journal of the Academy of Nutrition and Dietetics. 2022;122(9):A43.

Key takeaways:



- Histamine intolerance is a condition in which histamine accumulates in the body beyond its capacity for elimination, commonly associated to low intestinal DAO activity.
- Oral supplementation with **DAOgest®** at a dose of 4.2 mg/serving, helps to **improve symptoms associated with histamine intolerance.**



Global **life science** company with **50 years of expertise** in **biologically derived APIs** and **science-backed branded ingredients**

Leader in **heparin API** and reference partner in **mobility, digestive, skin & beauty** solutions

Vertically integrated operations ensure **quality, safety and full traceability** across 80+ countries

Circular economy model



Thank you

These statements have not been evaluated by competent food authorities. The product is not intended to diagnose, treat, cure, or prevent any disease. This information is only for business-to-business use and not meant to be addressed to final consumers



 **Bioiberica**